

40589**Conduct sampling of compost materials and products for testing and laboratory analysis**

Kaupae Level	3
Whiwhinga Credit	5
Whāinga Purpose	<p>This skill standard is intended for people who are already working in a resource recovery environment which processes organic materials for compost production. People credited with this skill standard will be able to conduct sampling of raw materials and compost products to comply with compost standards (NZS 4454:2005) and quality requirements, and prepare samples for testing and commercial laboratory analysis.</p> <p>This skill standard aligns with New Zealand Certificate in Resource Recovery (Level 3) with strands in Organic Materials Processing, Recovery and Recycling, and Metal Recycling [Ref: 2744].</p>
Whakaakoranga me mātua oti Pre-requisites	Learners/ākonga must have completed a workplace health and safety induction or demonstrate equivalent knowledge and skills.

Hua o te ako me Paearu aromatawai | Learning outcomes and assessment criteria

Hua o te ako Learning outcomes	Paearu aromatawai Assessment criteria
1. Conduct sampling of raw materials and compost products in a resource recovery environment.	a. Check and prepare equipment for sampling.
	b. Confirm sampling method and locations of raw materials and compost products.
	c. Conduct sampling activities in accordance with the product type and composting method, and ensure sample representativeness.
	d. Record sampling data, and any deviations from standard procedures.
	e. Identify hazards and risks during sampling activities, and follow risk controls.
2. Prepare samples for testing and commercial laboratory analysis.	a. Prepare samples for testing and transportation including.
	b. Dispatch samples for commercial laboratory analysis with relevant documentation.

Pārongo aromatawai me te taumata paearu | Assessment information and grade criteria**Assessment specifications:**

For assessment criterion 1b learners must provide evidence of a minimum of four different sampling methods. Sampling methods include representative sampling protocol, squeeze test and/or fist test (moisture content), density test, temperature probing, oxygen probing.

Evidence presented for assessment against this skill standard must be consistent with safe working practices and be in accordance with industry standard NZS 4454:2005, applicable service information, workplace procedures and legislative requirements.

Definitions

Compost products refer to composts, mulches, soil conditioners, natural and blended soils for landscaping, special purpose soils, potting mixes, loose fill playground surfacing, and various recycled organics products for a range of specialised applications.

Hazards refer to dust, noise, heat, pathogens, sharps.

Organic refers to materials that are putrescible or are of animal or vegetable origin.

Raw materials refer to plant materials, food waste, wood and timber, sawdust, wood shavings, crop residuals, forestry residuals, manures, biosolids, sewage grit and screenings, fats and oils, organic sludges, paper-based materials, paper mill wastes.

Workplace procedures refer to organisation policies and procedures that are documented in memo, electronic, or manual format and available in the workplace. They may include but are not limited to – standard operating procedures, site specific procedures, site safety procedures, equipment operating procedures, quality assurance procedures, product quality specifications, manufacturer's requirements, references, approved codes of practice, housekeeping standards, environmental considerations, on-site briefings, supervisor's instructions, and procedures to comply with legislative and local body requirements relevant to the resource recovery industry.

Ngā momo whiwhinga | Grades available

Achieved

Ihirangi waitohu | Indicative content**Sampling operations**

- Preparation of sampling equipment (spade, fork, temperature probe and/or oxygen probe) including cleaning and calibration.
- Documentation of relevant data including sample identification, location and date/time.
- Sampling and onsite testing for particle size, physical contamination, compost maturity and quality standards.

Samples for offsite testing

- Samples for chemical contamination, pathogens, heavy metals and nutrient levels.
- Preparation of samples for testing including segregation, packaging, labelling, storage and tracking.
- Storage of samples to minimise water loss.
- Transportation of samples.
- Documentation of laboratory testing details and requirements (to include with samples).

Rauemi | Resources

Legislation, regulations and industry guidelines relevant to this skill standard include but are not limited to:

- Hazardous Substances and New Organisms Act 1996.
- Health and Safety at Work Act 2015.
- Standards New Zealand. NZS 4454:2005 Composts, soil conditioners and mulches. Available from: <https://www.standards.govt.nz/>.
- Standards Australia. AS 4454:2012 Composts, soil conditioners and mulches. Available from: <https://store.standards.org.au/>.
- New Zealand Water and Wastes Association. (2003). Guidelines for the safe application of biosolids to land. Available from: <https://www.waternz.org.nz/>.
- Worksafe New Zealand. *Managing your hazardous substances*. Available from: <https://www.worksafe.govt.nz/>.

Any new, amended or replacement Acts, regulations, standards, codes of practice, guidelines, or authority requirements or conditions affecting this skill standard will take precedence for assessment purposes, pending review of this skill standard. Legislation can be accessed at:

<https://www.legislation.govt.nz>.

Pārongo Whakaū Kounga | Quality assurance information

Ngā rōpū whakatau-paerewa Standard Setting Body	Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development Council
Whakaritenga Rārangi Paetae Aromatawai DASS classification	Service Sector > Resource Recovery > Composting
Ko te tohutoro ki ngā Whakaritenga i te Whakamanatanga me te Whakaōritenga CMR	0014

Hātepe Process	Putanga Version	Rā whakaputa Review Date	Rā whakamutunga mō te aromatawai Last date for assessment
Rēhitatanga Registration	1	27 March 2025	N/A
Kōrero whakakapinga Replacement information	N/A		
Rā arotake Planned review date	31 December 2029		

Please contact Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development at qualifications@hangaarorau.nz to suggest changes to the content of this skill standard.